



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,921	07/24/2003	Jeffrey A. Lucas	CUNO-606.1	9496
45017	7590	01/26/2005	EXAMINER	
CUNO INCORPORATED 400 RESEARCH PARKWAY P. O. BOX 1018 MERIDEN, CT 06450-1018			KIM, YOON YOUNG	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/625,921	LUCAS ET AL.	
	Examiner	Art Unit	
	Yoon-Young Kim	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>0804</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-4, drawn to filter cartridge, classified in class 210, subclass 497.01.
 - II. Claims 5-16, drawn to method for fabricating filter cartridge, classified in class 427, subclass 244.

2. The inventions are distinct, each from the other because:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the filter cartridge as claimed can be made by a materially different process such as UV curing.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Thomas Payne on January 4, 2005 a provisional election was made without traverse to prosecute the invention of the method for fabricating a filter cartridge, Claims 5-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-4 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 5-13 and 15 rejected under 35 U.S.C. 102(b) as being anticipated by Ohtani, U.S. Patent No. 5,846,421.

Regarding Claim 5, Ohtani discloses a method for fabricating a filter cartridge comprising: providing a cylindrical filter (Fig. 1) element defining an outer periphery (#2), an inner periphery (#4) and opposed end surface regions; applying a hydrophilic polymeric surface treatment to the opposed end surface regions of the filter element (Col. 5, Lines 24-51), the polymeric surface treatment undergoing cross linking and chemically linking to the surface of the filter element in the opposed end surface regions (Col. 8, Lines 55-57); bonding polypropylene end caps to the surface treated opposed end surface regions of the cylindrical filter element (Col. 5, Lines 4-25); and integrity testing the filter element in water (Col. 8, Lines 16-20).

Regarding Claims 6 and 11, Ohtani discloses that the hydrophilic polymeric surface treatment is effected using a polymeric solution or dispersion that includes a polymeric material selected from the group consisting of polyvinyl alcohol, polyethyleneimine, a combination of 1-4 butanediol diglycidyl ether and ethylene amine, and a quaternary amine polyepichlorohydrin (Col. 5, Lines 50-59).

Regarding Claim 7, Ohtani discloses that the cylindrical filter element is fabricated from a material selected from the group consisting of nylon, polyethersulfone (PES) and/or polyvinylidene fluoride (PVDF) (Col. 3, Lines 42-52).

Regarding Claims 8 and 13, Ohtani discloses that the filter element is porous and wherein the hydrophilic polymeric surface treatment is non-occlusive with respect to the porosity of the nylon filter element (Col. 2, Lines 51-55).

Regarding Claim 9, Ohtani discloses that the application of the hydrophilic polymeric surface treatment is effected by dipping the opposed end surface regions in a hydrophilic polymeric solution or dispersion and curing the hydrophilic polymeric surface treatment (Col. 5, Lines 32-39).

Regarding Claim 10, Ohtani discloses a method for fabricating a filter cartridge comprising: applying a hydrophilic polymeric surface treatment to opposed end surface regions of filter element roll stock (Col. 5, Lines 24-51); curing the hydrophilic polymeric surface treatment to the opposed end surface regions, such that the polymeric surface treatment undergoes cross linking and chemically links to the surface of the filter element roll stock in the opposed end surface regions (Col. 8, Lines 55-57); forming a cylindrical filter element using the filter element roll stock, the filter element defining an outer periphery, an inner periphery and opposed end surfaces with the cured hydrophilic polymeric surface treatment positioned at the opposed end surfaces (Col. 4, Line 61 – Col. 5, Line 3); bonding polypropylene end caps to the opposed end surfaces of the cylindrical filter element (Col. 5, Lines 4-25); and integrity testing the filter element in water (Col. 8, Lines 16-20).

Regarding Claim 12, Ohtani discloses that the formation of the cylindrical filter element includes pleating of the filter element roll stock (Col. 4, Line 61 – Col. 5, Line 3).

Regarding Claim 15, Ohtani discloses that the curing of the hydrophilic polymeric surface treatment includes exposing the opposed end surface regions to heat (Col. 5, Lines 32-46).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtani.

Regarding Claim 16, Ohtani does not disclose that an infrared heater or convection oven is used in the curing of the hydrophilic polymeric surface treatment but does disclose the use of an infrared heater in the bonding of end caps (Col. 5, Lines 18-25). It would have been obvious to use the infrared heater for other heating processes for the same or similar materials of manufacture.

9. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtani in view of Vander Giessen et al., U.S. Patent No. 4,769,096.

Regarding Claim 14, Ohtani does not disclose the use of pinch rollers, slot dies, or a sprayer system. Vander Giessen teaches the application of a composition onto the filter media by using a roller coater or a sprayer (Col. 7, Lines 6-13). It would have been obvious to one of ordinary skill of the art to modify Ohtani by adding the element of Vander Giessen to achieve complete and even coating (Col. 7, Lines 6-13).

Art Unit: 1723


Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yoon-Young Kim whose telephone number is (571) 272-2240. The examiner can normally be reached on 8:30-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YK
01/18/05


W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700